

Service Manual

Radio

AM 2-BAND PORTABLE RADIO R-217R/W

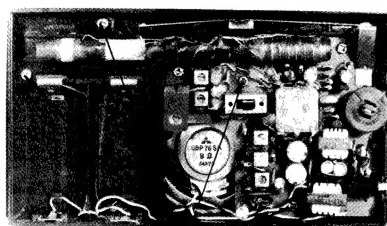


SPECIFICATIONS

Frequency Range:	MW 525~1605kHz(571~187m) SW 4.75~18MHz(63.2~16.7m)(R-217R) 3.2~12MHz (93.8~25m) (R-217W)
Intermediate Frequency:	455kHz
Sensitivity:	MW 70 μ V/m for 50mW Output SW 7 μ V for 50mW Output
Power Output:	400mW
Batteries:	3V (Two "D" size flashlight batteries) National UM-1 or equivalent)
Speaker:	6.5 cm (2 $\frac{1}{2}$ ") PM Dynamic Speaker
Dimensions:	185 (Wide) x 105 (High) x 47 (Deep) mm (7 $\frac{9}{32}$ " x 4 $\frac{1}{8}$ " x 1 $\frac{27}{32}$ ")
Weight:	500 g (1 lb. 1.6 oz.) without batteries
Impedance:	Speaker..... 8 Ω Earphone Jack..... 8 Ω

TO REMOVE CHASSIS

1. Remove cabinet back cover screw.
2. Remove cabinet back cover.
3. Remove four (4) red chassis screws, as illustrated in Fig. 1.
4. To reassemble, reverse the above procedure.



Red Screw (CH15) Fig. 1

Arrows illustrated in Fig. 2, indicate correct direction to insert/remove chassis into/from the slot on cabinet's side.

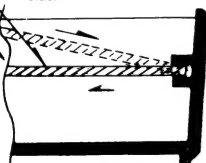


Fig. 2.

DIAL CORD INSTALLATION GUIDE

1. Dial cord length is 60 cm. (23 $\frac{5}{8}$ ")
2. Variable capacitor is positioned at maximum capacity.
3. Arrows (1~10) indicate correct order and direction of installation as illustrated in Fig. 3.
4. Cement dial cord ends.

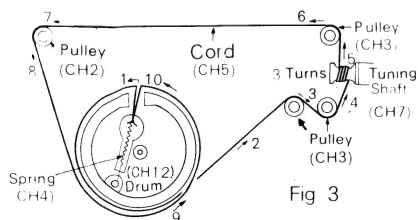


Fig. 3

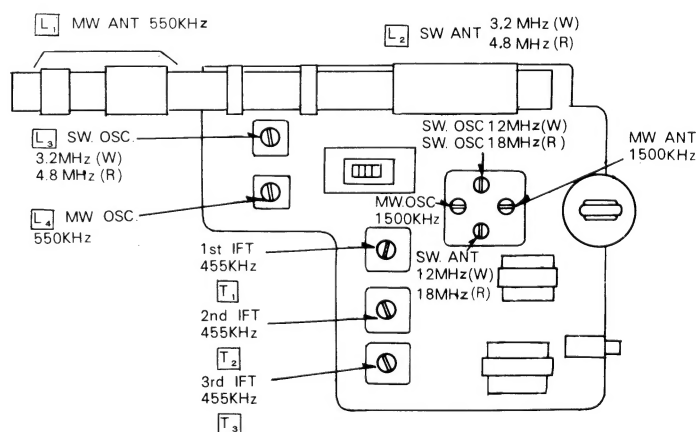
TO MOUNT DIAL POINTER

1. Variable capacitor is positioned at maximum capacity.
2. Set dial pointer to start point of dial back plate
3. Attach dial cord to dial pointer.

ALIGNMENT INSTRUCTIONS

If Re-alignment for frequency Range and tracking is required by customer, please adjust the coils and trimmers as indicated below.

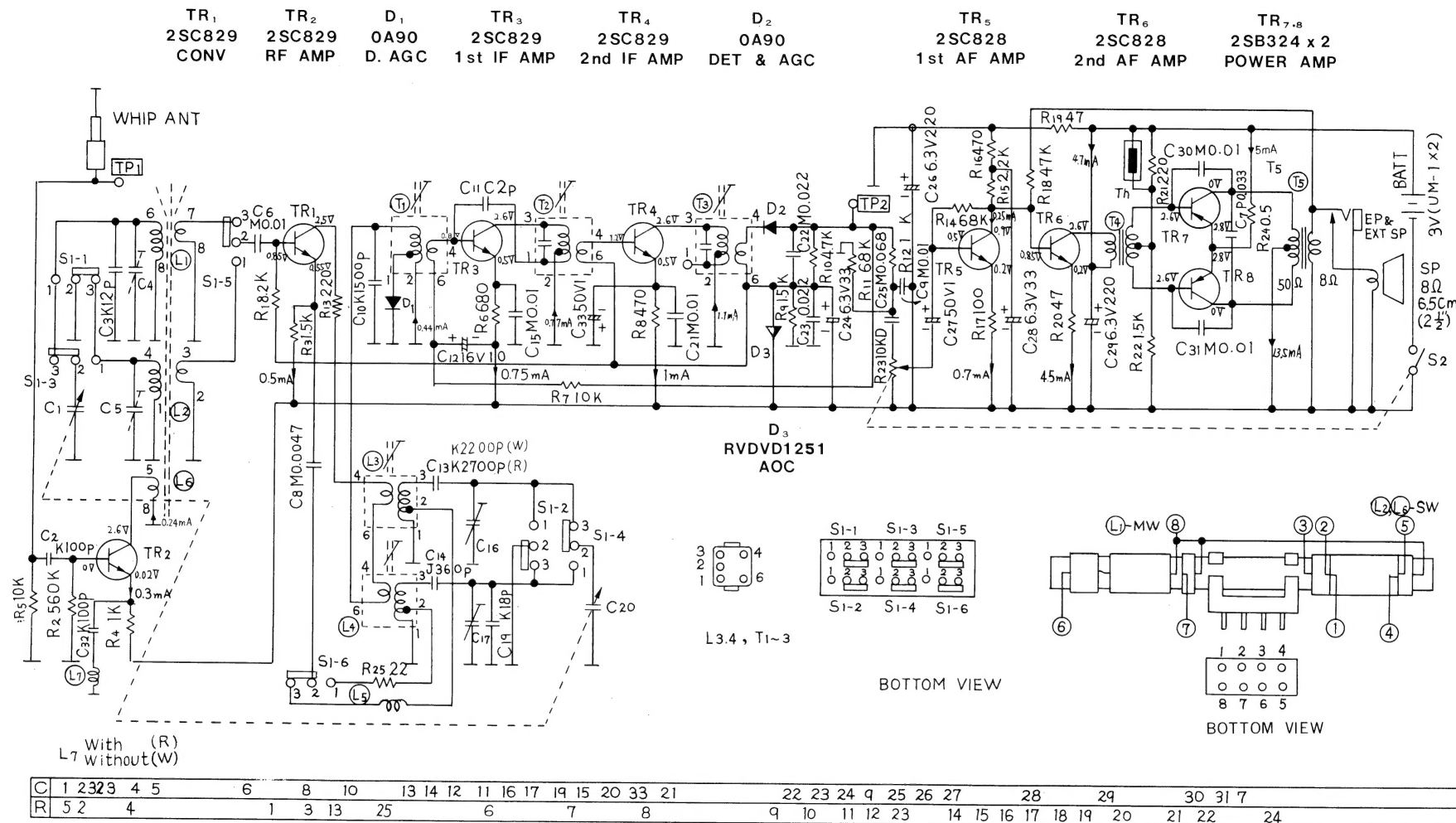
ALIGNMENT POINTS



Notes :

1. Set volume control to maximum.
2. Set band selector switch to MW or SW.
3. Set power source voltage to 3V DC.
4. Output of signal generator should be no higher than necessary to obtain an output reading.

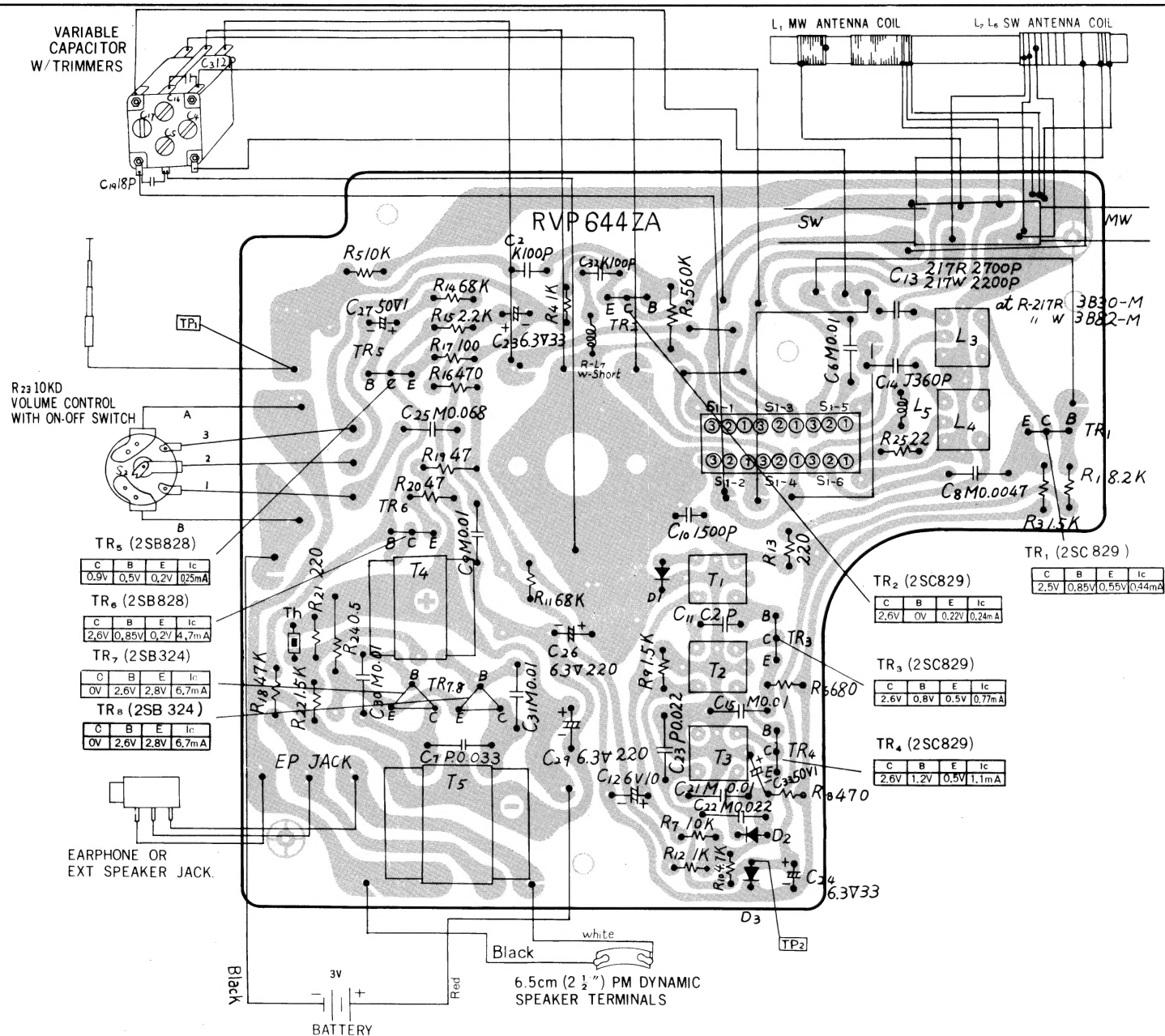
Schematic Diagram-Model R-217 R/W



Notes :

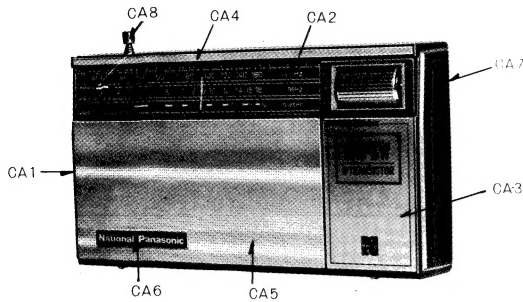
1. S₁₋₁ ~ S₁₋₆ : Band switch in MW position.
2. S₂ : Power source switch in "OFF" position.
3. DC voltage measurements are taken with circuit tester 10K Ω/V. from negative terminal of battery.

Circuit Board Wiring View-Model R-217 R/W

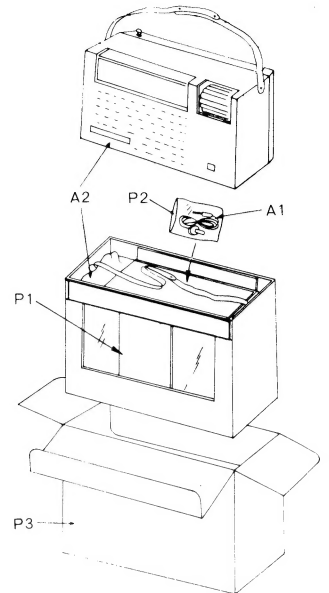


TR & D	Th	TR5	TR6	TR7	TR8	TR2	D1	D3	D2	TR3	TR4	TR1					
L & T				T4	T5	L7		T1	T2	T3	L1	L5	L3	L4	L2	L6	

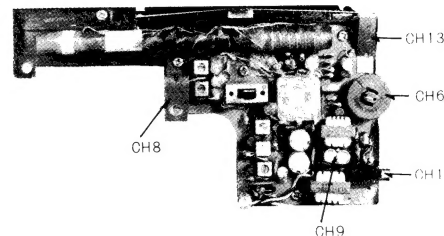
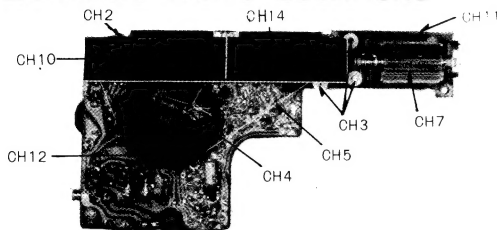
■ CABINET PARTS LOCATIONS



■ ACCESSORIES & PACKING PARTS LOCATIONS



■ CHASSIS PARTS LOCATIONS



■ REPLACEMENT PARTS LIST

NOTES:

1. Part numbers are indicated on most mechanical parts. Please use this part number for parts orders.
2. O mark indicates the new part.
3. X-Z rank: X rank parts will cover 80% of repair needs. X+Y rank parts will cover 95% of repair needs. Z rank parts are less necessary.

Ref. No.	Part No.	Description	Per Set (Pcs.)	Remarks
TRANSISTORS DIODES, AND THERMISTOR.				
TR1, 2, 3, 4	2SC829	RF Amplifier, converter, 1st, 2nd 1F Amplifier	4	X
TR5, 6	2SC828	1st AF Amplifier	1	X
TR7, 8	2SB324-2	Power Amplifier (Push-Pull)	2	X
D1, 2	0A90	D. AGC, Detector & AGC	2	X
D3	RVDVDI251M	AOC Operation Compensator	1	X
Th	RRT171	Thermistor	1	X
COILS AND TRANSFORMERS				
L1, 2, 6	RLF5E40M	MW & SW Antenna Coil R-217R	1	X 0
	RLF5E39M	MW & SW Antenna Coil R-217W	1	Y 0
L3	RL03B30M	SW Oscillator Coil R-217R	1	Y
	RL03B82M	SW Oscillator Coil R-217W	1	Y
L4	RL02B79M	MW Oscillator Coil	1	Y
L5	RLQY50S5M	Choke Coil	1	Y
L7	RLQY15G5	Choke coil	1	Y
T1	RLI2B124M	1st 1F Transformer	1	X
T2	RLI2B250M	2nd 1F Transformer	1	X
T3	RLI2B450M	3rd 1F Transformer	1	X
T4	RLT3E18M	Input Transformer, P=700Ω: S=1KΩ	1	X
T5	RLT2F38M	Output Transformer, P=50Ω: S=8Ω	1	X
VARIABLE RESISTOR				
R23	EVLD8B851D14	10KΩ (D), Volume Control W/ON-OFF Switch (S ₂)	1	X
VARIABLE CAPACITOR				
C1, 20	PVC-2K 20T1M	Variable capacitor W/Trimmers (C4, 5, 16, 17)	1	X
SPEAKER				
SP	EAS65P76SJ	6.5cm (2½") PM Dynamic Speaker Imp. 8Ω	1	X
SWITCH				
S1-1~S1-6	RSS146-1	Band Selector Switch	1	X
RESISTORS				
R24	ERD 14TJR5	0.5 Ω, ¼ Watt, Carbon	1	Z
R25	ERD 18 VJ 220	22 Ω, ¼ Watt, Carbon	1	Z
R19, 20	ERD 18 VJ 470	47 Ω, ¼ Watt, Carbon	2	Z
R17	ERD 18 VJ 101	100 Ω, ¼ Watt, Carbon	1	Z
R13, 21	ERD 18 VJ 221	220 Ω, ¼ Watt, Carbon	2	Z
R8, 16	ERD 18 VJ 471	470 Ω, ¼ Watt, Carbon	2	Z
R6	ERD 18 VJ 681	680 Ω, ¼ Watt, Carbon	1	Z
R4, 12	ERD 18 VJ 102	1 KΩ, ¼ Watt, Carbon	2	Z
R3, 22, 9	ERD 18 VJ 152	1.5 KΩ, ¼ Watt, Carbon	3	Z
R15	ERD 18 VJ 222	2.2 KΩ, ¼ Watt, Carbon	1	Z
R10	ERD 18 VJ 472	4.7 KΩ, ¼ Watt, Carbon	1	Z
R1	ERD 18 VJ 822	8.2 KΩ, ¼ Watt, Carbon	1	Z
R5, 7	ERD 18 VJ 103	10 KΩ, ¼ Watt, Carbon	2	Z
R18	ERD 18 VJ 473	47 KΩ, ¼ Watt, Carbon	1	Z
R11, 14	ERD 18 VJ 683	68 KΩ, ¼ Watt, Carbon	2	Z
R2	ERD 18 VJ 564	560 KΩ, ¼ Watt, Carbon	1	Z

Ref. No.	Part No.	Description	Per Set (Pcs.)	Remarks
CAPACITORS				
C11	ECODIH020C	2PF, 50WV, Ceramic	1	Z
C3	ECODIH120K0	12PF, 50WV, Ceramic	1	Z
C19	ECODIH180K0	18PF, 50WV, Ceramic	1	Z
C2, 32	ECODIH101K	100PF, 50WV, Ceramic	2	Z
C13	EQOS05272KZ	2700 PF, 50WV, Styrol R-217R	1	Z
	EQOS05222KZ	2200PF, 50WV, Styrol R-217W	1	Z
C10	EQOS05152JZ	1500 PF, 50WV, Styrol	1	Z
C14	EQOS1361JZ	360 PF, 125WV, Styrol	1	Z
C25	EQOG05683MZ	68000 PF, 50WV, Styrol	1	Z
C23	ECKEIH223PF	0.022 μF, 50WV, Ceramic	1	Z
C8	ECKEIH472MD	0.0047 μF, 50WV, Ceramic	1	Z
C21, 6, 15, 30, 31, 9	ECKEIH103MD	0.01 μF, 50WV, Ceramic	6	Z
C7, 22	ECKEIH223MD	0.022 μF, 50WV, Ceramic	1	Z
C24, 28	ECEA6V33	33 μF, 6.3WV, Electrolytic	2	Y
C26, 29	ECEA6V220	220 μF, 6.3WV, Electrolytic	2	Y
C12	ECEA16V10	10 μF, 16WV, Electrolytic	1	Y
C27, 33	ECEA50V1	1 μF, 50WV, Electrolytic	2	Y
C7	ECKEIH333PF	0.033 μF 50WV Ceramic	1	Z
CABINET				
CA1	RYMR217R or W	Cabinet Body Assembly	1	X 0
		Cabinet Front	1	Y 0
CA2	Not Available Order	Scale Dial RKD382ZA---R-217R	1	Y 0
		RKD382YA---R-217W	1	Y 0
CA5	RYMR217R or W	Metal Grille	1	Y 0
CA3	RGK632ZA	Panel	1	Y 0
CA4	RGX699ZA	Panel	1	Y 0
CA6	RGB226ZB	Badge	1	Y 0
CA7	RKF287ZA	Cabinet Back Cover	1	Y 0
	RGT456ZA	Name Plate---(R-217W ONLY)	1	Z 0
CA8	XEARDV92HBS	Whip Antenna	2	Z 0
CA9	RJC102A-2	Terminal Battery ⊙ Side	2	Y 0
CA10	RJC103A-1	Terminal Battery ⊙ Side	1	Y 0
	RHK122AS	Cover Mounting Screw	1	Z 0
CA11	RMS30	Bracket Speaker	1	Z
CHASSIS				
CH1	RJJ19C	Jack, Earphone	1	Y
CH2	RDR20	Pulley, Dial	1	Z 0
CH3	RDR21	Pulley, Dial	3	Z 0
CH4	RDS4090	Spring, Dial	1	Y
CH5	RDZ05A	Cord, Dial	1 Roll	Y
CH6	RBT45Z	Knob, Volume	1	Y 0
CH7	RBV12Z	Knob, Tuning	1	Y 0
CH8	RBX26Z S	Fixture	1	Z 0
CH9	RMV23B	Heat sink, Transistor	1	Z 0
CH10	RDP142Z	Pointer, Dial	1	X 0
	RDY31A	Pulley shaft, Dial	4	Z 0
CH11	RUA264Z	Chassis	1	Y 0
CH12	RDD44-1	Drum, Dial	1	Y
	RUS253Z	Chassis Board	1	Y
CH13	RJT 470Z	Terminal Lug	1	Y 0
	RNW150-3	Plastic washer	1	Y 0
	RUV292-2	Hemelon	1	Y
CH14	RDH111Z	Dial Back Plate	1	Z 0
CH15	XTN3D10BR	Red Screw Chassis M'tg	4	Z
ACCESSORIES				
A1	PS5WA1	Magnetic Earphone Imp. 8Ω	1	Y 0
A2	RQK59ZA	Shoulder Case	1	Y 0
PACKING				
P1	RQX 068 (T)	Instruction Book	1	Y 0
P2	RPF1A	Polyethylene Cover	1	Z
	RPP54	Polyethylene Cover	1	Z
P3	RPK051 (T)	Gift Box	1	Z 0